GARDEN AND FOREST.

PUBLISHED WEEKLY BY

THE GARDEN AND FOREST PUBLISHING CO.

OFFICE: TRIBUNE BUILDING, NEW YORK.

Conducted by . . . . . Professor C. S. SARGENT.

ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE AT NEW YORK, N. Y.

NEW YORK, WEDNESDAY, JULY 25, 1894.

TABLE OF CONTENTS.

PAGE.

EDITORIAL ARTICLES:—"Keep off the Grass." 291
Object-lessons in Forestry 292
North American Thorns. (With figure.) 292
FOREIGN CORRESPONDENCE:—London Letter. ..... *W. Watson.* 293
PLANT NOTES 294
CULTURAL DEPARTMENT:—Notes on Trees and Shrubs. ..... *J. G. Jack.* 294
Perennial Sweet Peas ..... *E. O. Orpet.* 296
Pelargoniums ..... *W. N. Craig.* 296
Gladioli ..... *J. N. Gerard.* 296
Vellozia elegans ..... *W. E. Endicott.* 297
Notes from Cornell University ..... *G. Harold Powell.* 297
CORRESPONDENCE:—The Injury to the Grape Crop. ..... *E. P. Powell.* 297
"Keep off the Grass." ..... *B. R.* 297
The Island Flower-garden in Jackson Park. ..... *Mrs. Fanny Copley Seavey.* 298
The Cypresses of Monterey ..... *Dr. Maxwell T. Masters.* 298
THE FOREST:—Mixed Oak and Beech Forests of the Spessart: Management by the Bavarian Government.—I. ..... *Sir Dietrich Brandis.* 298
RECENT PUBLICATIONS 299
NOTES 300
ILLUSTRATION:—The Cockspur Thorn, Crataegus Crus-galli, in a Massachusetts Garden, Fig. 49. 295

"Keep off the Grass."

COMPLAINT is made by a correspondent in another column that this warning meets his eye so often whenever he visits our great city parks that it seems to him inhospitable, and even as a broad suggestion that his presence is not desired. He argues that parks should welcome visitors and not repel them by needless restrictions; that they are made to use and not to look at only; that there is nothing so pleasant to feet that are wearied with constant walking on stone pavements as the feeling of soft turf under them; and finally, that, except in places which have been lately seeded, trampling does not injure, but actually helps, the growth of the grass.

No doubt, the fewer restrictions which it is necessary to impose on visitors to public parks the greater will be their general attractiveness, and if it is true that trampling helps the grass the legends on the signs of warning ought to be changed so as to read, "Please walk on the turf." But, plainly, there is a limit to the point where walking on the turf is beneficial. If our smaller parks in the densely populated part of this city, like Tompkins Square or Madison Square, were thrown open in the dry season, what are now stretches of grass would soon be dusty wastes, as disagreeable to the foot of the pedestrian as to his eye. In moister climates grass will thrive under an amount of trampling that it cannot endure here. We speak of "the turf" when we mean the sport of horse-racing because we use the language of a land where races are actually run on the grass, but the conditions are quite different here, and even lawn-tennis is not generally played on a lawn, because to keep a smooth, even turf requires a great expense and constant watering and fertilizing.

There is a neat fallacy concealed in the statement that parks are made to use, and not to look at. The beauty of a park is its highest use, and to destroy that beauty is to abuse, and not to use, it. Very pleasant it is to wander by a natural wood border, and people think they enjoy it and are using it when they break off the flowering branches and carry them away. Certainly, those who wish to use a park in this way, and mutilate trees and shrubbery, must be restrained, and no sensible person would consider such a restraint unkind or inhospitable. Again, the pleasure of walking on the grass, like the pleasure of carrying away flowers and shrub-branches, is, no doubt, exaggerated. If we will take note of a hundred persons walking in a pasture ninety-nine will select a path, and if two of them are together they will follow it, even if they are compelled to walk in single file. That parks can be enjoyed without walking on the grass is proved by the fact that so many visit them in carriages, and if walking on the grass was the chief pleasure of visitors there would be less need of incurring great expense in laying out and constructing paths. No doubt, at times it is pleasant for children of all ages to roll on the grass and to play games on it, and even in the parks where the rules are strictest this is done to a much larger extent than people imagine. Where visitors are few in comparison to the grassy areas, as in the great meadows of Prospect Park, these spaces are thrown open most of the time. The meadow area of Central Park is made free whenever the condition of the grass will permit. Tennis and other games are allowed in certain portions of the park, but it is necessary there to keep the players away now and then in order to let the turf grow green again. Nevertheless, as many as 30,000 people a day often have permits for picnics in Central Park, and it is not uncommon to see a hundred thousand people on the grass at once.

No doubt, in parks which are properly planted there will be fewer temptations to make short cuts across the turf; for it is not so much the desire to walk on the grass as to get somewhere and make a new path that is really irritating to visitors. Well-laid park-paths will not only lead in an agreeable way to the points of special interest, but they will be laid so as to command the best views of the scenery. But, after all, a park is finally meant to be a refreshment to the spirit. An appeal to the eye is stronger than one to the soles of the feet. In every pastoral picture the grass is the essential and indispensable element of beauty, and it has a higher value as something to look at and look over than it has as something to walk on. So long as trampling does not mar its beauty it ought to be free to visitors, but just as soon as human feet deface it with lines of travel they should be restrained until it has time to recover. Of course in the best park management the grass will receive special attention, and its growth will be encouraged by watering in dry weather wherever this is practicable. But when every care is given there will be times in our climate when, in populous cities, the warning, "Keep off the Grass," will be necessary if the parks are to retain that tender and restful beauty which gives them their supreme value.

Object-lessons in Forestry.

IN the issue of this journal for May 30th, and in the two following numbers, we published a continued article on the "Mixed Oak and Beech Forests of the Spessart," which sketched the general history of these woods and showed how the forests, although they have suffered considerably from certain vested privileges which allowed the removal of wood and the pasturing of animals, and even more from the ravages of war, are still most important sources of timber-supply and promise to keep increasing in value for years to come. The relation between the Oak and the Beech was particularly set forth, and it was shown that although when Oak and Beech grow together in thickets the less valuable Beech will finally overtop and kill the Oak, yet when properly managed the finest Oak-timber is found where the Beech is grown with it as a nurse. In the present number will be found the first part of a continuation of the same general subject by Sir Dietrich Brandis, in which the present system of management of these woods by the Bavarian Government will be given in more detail.

It was early in the century that the Spessart was incorporated into the kingdom of Bavaria, when the entire forest-system had to be reorganized and comprehensive plans adopted to regulate the cutting of the Oak-timber, to reclaim

the areas which had been devastated and to provide for future supplies. All the fundamental problems of forestry had to be dealt with, and an explanation of the manner in which these problems were met ought to prove useful to American readers. Of course, no forest experience in one part of the world can be exactly repeated in another. In fact, the details of any forest system will differ widely in different parts of the same country. Very plainly, we cannot attempt to grow the same species of trees as are grown in Franconia. We have a different soil, a different climate, different markets, different financial conditions; but because we cannot repeat the details of forest practice which are used elsewhere there is no reason why we should go blundering along without recognizing the fact that there are principles which lie at the basis of all successful forestry. When Sir Dietrich Brandis was appointed to organize the forest practice and the forest service of British India, he had to deal with Teak and Bamboo instead of with Oak and Beech. He found that Teak and Rosewood were being exterminated in all accessible areas. No protection was given to valuable trees, and no provision was made for their reproduction. Using the principles which he had learned in Germany, and properly mingling the trees which, as he found by observation, demanded light with those which endured shade, he founded a systematic management of the Teak-forests, which now brings a steadily increasing revenue to the Government and insures a lasting supply of timber.

The first requirement for a successful system of forestry in America is a thorough knowledge of the habits of our native trees. Until we can give an intelligent reason for planting any one kind in any given place and in any given company; until we can make a forecast which includes the entire life of a forest-tree up to the appointed date for felling it, and which takes into account the particular influence its growth and its removal will have upon the forest of which it is a part, our planting will be nothing but an experiment, and probably a failure. We can afford such experiments with a grain crop, for example, which takes but a year to mature, but if we are planning for forests which are to be permanent, and yet yield an annual timber crop, a mistake at the outset may be serious beyond computation. Unfortunately, our space compels us, as was the case in the earlier papers of this series, to abbreviate to some extent the instructive treatise which Dr. Brandis has prepared, but we have tried to omit nothing which will weaken the force of the argument which he addresses to Americans. Experience, he says—actual experience—is the only safe guide in forest-management. Hence it is wise to learn from the actual experience of those countries where the profession of forestry has attained its highest development. It would be a waste of time not to utilize the lessons which success and failure have taught other countries, and he sets forth in detail the management of the mixed wood of the Spessart in the hope that Americans will be induced to come and see and study for themselves. Forest-management in British India is successful, and this was based upon forestry as it had been developed in France and Germany. If a successful system of forest-management is ever built up in America it will be founded on the same solid principles.

North American Thorns.

THERE are several species of Cratægus in eastern North America that are excellent garden-plants, although they are rarely planted in this country, and yet the European Hawthorn, Cratægus Oxyacantha, is frequently used in our plantations in spite of the fact that our hot dry summers have such an effect upon it that it is often deprived of its leaves through fungal diseases in July or August. The best North American Hawthorns to plant in the northern states are Cratægus mollis, Cratægus cordata, Cratægus punctata and Cratægus Crus-galli. Cratægus mollis, which grows to a larger size than the other species of the northern states, where it often appears as a broad-branched shapely tree, fully thirty feet tall, is the earliest American species to flower. The large flowers and brilliant scarlet fruit of this tree make it very ornamental in spring and early autumn, and the intricate branches, covered in their early years with lustrous chestnut-brown bark and armed with long curved spines, render it interesting in winter. The fruit, which is sometimes an inch and a quarter long, unfortunately falls almost as soon as it is ripe in August or September.

Cratægus cordata, known as the Washington Thorn, has the merit of flowering later than any of the other species, the small flowers opening here late in June; its thick and lustrous leaves turn in the autumn to brilliant shades of scarlet and orange, and the small bright red fruit hangs on the branches until late into the winter. As an ornamental plant the Washington Thorn is certainly one of the most valuable of the small North American trees. Once popular as a hedge-plant it is now rarely seen in our gardens.

Cratægus punctata is distinguished by its obovate rounded leaves with prominent veins, its large bright red or clear yellow fruit marked with many pale dots, and by its flat-topped head of spreading branches. Very common in all the Appalachian region and in the north central states and Ontario, it is often seen occupying hill-side pastures with open thickets or groves of considerable extent. The habit of this species and its large and showy fruit should recommend it to planters, who, up to this time, have generally failed to recognize its value.

But the most valuable of all our Hawthorns as an ornamental plant is the Cockspur or Newcastle Thorn, Cratægus Crus-galli, one of the most variable in the form of its leaves of all our Hawthorns, and one of the most widely distributed trees of eastern North America, ranging as it does from the valley of the St. Lawrence to the valley of the Colorado, in Texas. In cultivation the Cockspur Thorn is a shapely tree with a short trunk and wide-spreading branches, which sweep the ground when sufficient space is allowed them in which to develop and form a compact, round-topped, well-proportioned head. Such a specimen appears in our illustration on page 295 of this issue, made from a photograph of a tree that has been growing for sixty years in a garden near Boston, Massachusetts; it shows what the Cockspur Thorn is capable of becoming with good treatment. The flowers open in June after the large, thick and lustrous leaves have attained their full size, and at a time of the year when a comparatively small number of trees and shrubs are in bloom; the fruit is large and abundant, and hangs on the branches throughout the winter without diminution of brightness, and the leaves in the autumn turn to brilliant shades of orange and scarlet. This tree has to recommend it longevity, a good habit, hardiness, ample lustrous leaves brilliant in the autumn, abundant late-opening flowers and well-colored persistent fruit. It is not surprising, therefore, that it has attracted the attention of gardeners in Europe, where it is more highly prized and more frequently planted than any of the other American species, or than it has ever been in this country, although at one time it was used in large numbers by the farmers of Newcastle, Delaware, as a hedge-plant—a fact to which it owes one of its popular names.

The Thorns are best increased by seed, although particular varieties are multiplied by grafts. The seeds usually do not germinate until the second year, and the seedlings at first grow slowly; once established, however, in good, deep, rather moist soil, which all the species of the genus require in order to display all their beauties, they grow rapidly and begin to flower at the end of a few years.

Of all our small trees none surpass the Hawthorns in beauty or in interest, for two seedling plants are never alike, and their variations increase the pleasure of cultivating them. Many woody glades from New England to Texas owe their greatest charm to an abundance of Haw-

thorns, but these native trees are sought for almost in vain in our public parks and pleasure-grounds.

Foreign Correspondence.

London Letter.

HYBRID SWEET BRIER ROSES.—The Sweet-brier, or Eglantine, of the English hedgerows, is one of the most beautiful of our native plants. It is also allowed a place in a few gardens, mostly old-fashioned, I am afraid. But Lord Penzance has added to the Sweet-brier just those characters which were needed to make it attractive to all, namely, variety in the colors and of greater durability in the flowers. We have two beds of the Penzance hybrids (raised, I believe, from the Sweet-brier crossed with old-fashioned garden Roses), and they have been delightful for the last month or so. The possessors of the stock of these hybrids, Messrs. Keynes, Williams & Co., of Salisbury, exhibited a collection of them at the Rose show last week. They are Sweet-briers in everything, stems, leaves, fragrance and floriferousness, and their single or semi-double flowers range in color from white to crimson and coppery-red. They are charming plants for the lawn, for any position, in fact, where an elegant shrub is wanted, and they are, of course, as hardy as the Sweet-brier itself. Names have been given to nine of the most distinct. These are Amy Robsart, deep rose; Annie of Gierstein, dark crimson; Brenda, pale blush; Flora McIvor, pure white, flushed with rose; Lady Penzance, coppery-red, yellow at the base of the petals (a cross between Sweet-brier and Harrison's Rose); Lord Penzance, soft fawn or écru, yellow in the centre and flushed with pink (of the same parentage as the preceding); Lucy Ashton, white, with the petals edged with pink; Meg Merrilles, rich crimson; Rose Bradwardine, clear soft rose. Readers of GARDEN AND FOREST desirous of possessing these Roses may like to know that Messrs. Keynes, Williams & Co. offer them in November next.

GENISTA VIRGATA.—This is a king among Brooms; one might almost call it the grandest of all hardy June-flowering shrubs. It is represented at Kew by many huge bushes twelve feet high and through, which have been established many years among the trees as well as in several of the shrubberies, and they all have been clouds of gold for the last four weeks. Some Genistas are good for a few years and then require to be grubbed up and started afresh, and some are never good for much as garden-plants. But G. virgata is never unsightly, is quite hardy, is easily multiplied from cuttings, transplants well, and when in flower in June it is a gorgeous picture of golden-yellow flowers. Strangely enough, it is a rare plant in English gardens, although cultivated in the last century and described fifty years ago by Dr. Lindley in as enthusiastic language as I have used here. It is a native of Madeira and has been called Spartuim virgatum.

A NEW HYBRID CLEMATIS.—Messrs. G. Jackman & Sons, of Woking, exhibited last week a distinct hybrid raised by them from the large-flowered variety Star of India and the red-flowered C. coccinea. It is intermediate between the two parents in the size and form of its flowers, which are campanulate, almost trumpet-shaped in outline, two inches in diameter and colored deep red-purple, with a stripe of red down the middle of each of the four fleshy petals. The leaves and habit are not unlike those of C. coccinea, and Messrs. Jackman say that the plant is a vigorous grower, perfectly hardy and very floriferous. This hybrid obtained a first-class certificate under the name of Countess of Onslow. Such a cross between two plants so divergent, especially in flower characters, is remarkable. Has the cross between Clematis and Anemone ever been tried? According to Sir Joseph Hooker these two genera are not separated by any good botanical characters. I have tried Anemone Japonica with Clematis Stanleyi, but did not succeed.

ANCHUSA ITALICA, the Italian Bugloss, is one of our most attractive hardy herbaceous perennials at this time of year. It is an erect, freely branched bush six feet high, crowded with hispid lanceolate dark green leaves, and thickly bespangled all over with rich gentian-blue flowers, each as large as a shilling and borne in terminal racemes. It is often described as a biennial, three feet high, with flowers half an inch in diameter, but even in the poor soil at Kew it is all that I have here described. For the herbaceous border it is a plant of more than ordinary merit, as it looks after itself, does not suffer in hot dry weather, and in the color of its flowers it possesses an exceptional value, clear blue being not too abundant among plants available for the ordinary border.

TALAUMA HODGSONI was discovered in the Sikkim Himalaya by Sir Joseph Hooker, and figured by him in his *Himalayan Plants*, where he describes it as a small tree, twenty to forty feet high, with large, handsome, coriaceous evergreen leaves and fleshy, fragrant, white flowers nearly as large as those of Magnolia grandiflora. It is common in the Sikkim forests at 2,000 to 4,000 feet elevation. There are two large specimens of it in the temperate-house at Kew, and one of them is now flowering for the first time in cultivation. Its leaves are two feet long by eight inches in width, and the flowers, which are borne on short lateral branches, have plum-purple sepals and ivory-white petals, their odor being powerful and aromatic. T. Hodgsoni was named in compliment to B. H. Hodgson, Esq., F.L.S., late of the Bengal service, whose death, at the age of ninety, occurred a few days ago.

ANGRÆCUM FOURNIERIANUM is a new species, which was shown by Messrs. F. Sander & Co. this week, and received a certificate from the Royal Horticultural Society. A botanical description of it by Dr. Kranzlin is published in the last number of the *Gardeners' Chronicle*. He describes it as a splendid novelty, of which I received fresh flowers from Messrs. Sander & Co. in 1892. It is a very fine plant, and a rival to Æranthus Leonis, the flowers two inches long, excluding the spur, and two inches in diameter, the leaves fleshy, strap-shaped and two feet long. The plant shown might be described as a small A. eburneum, with erect scapes of white flowers, in which the lip is three-lobed, the central narrowed into a point, the two lateral rounded. It was introduced from Madagascar by the exhibitors. Although not so showy as A. eburneum and A. sesquipedale, it possesses the characters of a good garden Orchid.

BRITISH FRUIT.—A great exhibition of British-grown fruit will be held on September the 29th and the three following days at the Crystal Palace, under the auspices of the Royal Horticultural Society, and there is every promise that it will be a success. Prizes of money as well as medals are to be given, and the exhibits must be bona fide the products of gardens in Great Britain and Ireland. An attempt to organize such an exhibition was made two years ago, but it fell through for want of management. The Royal Horticultural Society has lately given proofs of its capacity for running big shows, and they will, I believe, astonish even those who know something of what can be done in this country in the way of fruit production, if only the weather will be on its good behavior. Lectures are to be given by specialists in fruit culture, packing, etc., and efforts will be made to hold a general meeting of professional gardeners.

London. *W. Watson.*

I have an opinion that the garden should look as though it belonged to the house, and the house as though it were conscious of and approved the garden. In passing from one to the other we should experience no sense of discord, but the sensations produced by the one should be continued with a delicate difference by the other.—ALFRED AUSTIN, in *The Garden that I Love.*

All buildings should be in unison with the immediate site in which they are seen.—*Planting and Rural Ornament.* 1796.

Plant Notes.

The Dwarf Buckeye.—Almost every large collection of shrubs contains one or more plants of Æsculus parvifolia, or, as it is more generally known, Æ. (Pavia) macrostachya, and yet it is not as common as so good a shrub should be. It was discovered in the Alleghany Mountains by Bartram more than a hundred years ago, and although it was introduced into English gardens soon after its discovery, Mr. Watson wrote to this journal last year that specimens in flower at Kew were looked upon by most visitors as botanical rarities. The Dwarf Buckeye has a very distinct habit, throwing out stout stems from the ground, some of which in old plants attain a length of eight or ten feet, the lower ones being raised at a very slight angle. In this way plants make mounds of dark green foliage ten or fifteen feet across, and not more than eight feet high. After a time the very lowest branches, which lie on the ground, take root, and the plant spreads still farther until it covers a circle sometimes twenty or thirty feet across. Just now, when there are few shrubs in bloom, the Dwarf Buckeye presents a striking spectacle, a good plant showing hundreds, and sometimes thousands, of erect flower-spikes from twelve to fifteen inches in length. The petals are snowy white, and the conspicuous pure white stamens extend half an inch beyond the corolla and give the whole a singularly light and feathery aspect. The flowers are especially beautiful in moonlight, when they appear to be glittering white, but in the day-time the cream-colored calyx and the anthers, which are a light terra-cotta color, give a slight tint to the prevailing white. The flowers open at the same time throughout the whole length of the spike, and a second crop of buds open as the first ones fade, so that they remain in perfection for a long time. Unlike the common Horse-chestnut, the foliage is not disfigured by fungi in midsummer, and, altogether, the Dwarf Buckeye is an attractive shrub the whole season through, and although it is a southern plant, it is hardy enough to flower well in all the New England states.

Cattleya citrina aurantiaca.—Cattleya citrina is a very attractive species, although somewhat refractory, and it usually shows little variation. Four years ago, in Italy, a richly colored form of it appeared in several collections, for which the name Aurantiaca was proposed. A year later it appeared in two or three English collections, and now, according to a note in the *Orchid Review*, it has flowered again in England, and, as Mr. Rolfe well observes, the fact of its repeated appearance and the stability of its characters prove that it is not a mere accidental variation, but a well-marked variety. Its origin is uncertain, and it is also uncertain whether the several plants known can be traced to the same source. The flowers are larger than those of the type; the sepals and petals are much more spreading; the front lobe of the lip is elongated and about an inch long, and the whole flower is more deeply colored, the deep yellow approaching a true orange color.

Lathyrus splendens.—So far as we know, this plant, which was spoken of so enthusiastically by Mr. Watson in a recent letter, has not proved hardy in our northern Atlantic states. Some seed which has been sold under this name has been spurious and produced plants which bear rose-colored flowers very inferior to those of the true species, but none of the plants, so far as we have been informed, have endured the winter. Still, some horticulturists, whose judgment is usually good, feel that additional efforts should be made to test the hardiness of this beautiful plant in the eastern states under some protection. Mr. E. D. Sturtevant writes that in his garden at Los Angeles, California, the plant usually begins to flower in February, but last year it began in October and continued all winter, producing its greatest amount of bloom in February and March. The flowers are of a satiny texture and of the richest carmine color, and when held between the eye and the sun they glow like rubies.

Asclepias tuberosa.—At the Centennial Exhibition in Philadelphia a large bed of these plants, which had been furnished by a firm of seedsmen from Holland, made a very bright show in midsummer, and it was said at the time that many Americans who admired the brilliant orange flowers manifested some disgust when, upon inquiry, they learned that the plants were nothing but the native Butterfly-weed. Nothwithstanding the fact that this Asclepias is a common wild plant, its broad terminal corymbs of flowers upon erect stems are certainly very conspicuous with their rich orange-colored hoods, which are of a tint not common at any season. The plants are naturally found in dry, sandy or gravelly soil, but they will flourish in any good garden loam, and Mr. Jackson Dawson, of the Arnold Arboretum, who has a bed of them which he prizes very highly, writes that if they are not allowed to go to seed they will bear a second crop of flowers later in the season. Single plants look well on shrub borders, and the glowing flowers appear to good advantage against the dark green foliage. There is a variety known as decumbens, with reclining stems, which we have never seen in cultivation, and which ought to make a good plant for a rockery.

Early China Asters.—There are cases when it is desirable to have China Asters as early as the middle of July, and it seems that they can readily be had at this time, or even earlier. A correspondent writes that he has tested a variety, the seed of which he received from Burpee under the name of Queen of Spring, and it flowered ten days ago. The seed was sown on the 15th of April and the plants were transplanted to the borders, where they received no special attention either in feeding or cultivation. They are fair-sized plants, with reflexed flowers of medium size, and are some weeks in advance of other varieties which were sown at the same time.

Cultural Department.

Notes on Trees and Shrubs.

PROBABLY so long as our fields and woods and mountain-slopes yield an abundant natural supply of blueberries, or huckleberries, as the fruits of the blue-fruited section of the genus Vaccinium are sometimes called, there will be comparatively little done in the direction of cultivating or improving by selection these valuable and popular fruits. The areas covered by these plants in many of our states are usually more than adequate to meet all local demands. With transportation facilities thousands of bushels of blueberries could be procured from the far north, where the fruit is never seen nor touched by man, and either decays or furnishes food for wild birds and animals.

While the species of the genus Vaccinium are found in all the cooler portions of the northern hemisphere the valuable hardy ones are probably nowhere so richly represented as in North America. When the time comes for their more extensive cultivation they will be found quite as susceptible to improvement as many of the garden-fruits which are now considered indispensable in our markets. In nature, there is often a very marked difference in the size, productiveness and quality of fruit from different plants of the same species, and the best forms might be readily improved. An indication of the results of such care is shown in the case of the Cranberries, close allies of the Blueberries, and now so much cultivated in certain districts. The culture of the Blueberry is not so difficult as is generally supposed, and it will thrive in any good garden-soil which is not too heavy, or where there is not too much clay or lime. Any plant which is found specially desirable may be readily propagated by portions of the roots or of the stolons or underground stems, by which single plants often spread and form large clumps, or tongued layers will form roots if kept moist.

The earliest of the Blueberries in this region to ripen its fruit is also one of the most common species. This is the so-called Dwarf Blueberry, Vaccinium Pennsylvanicum, which usually grows only from two or three inches to a foot in height, according to soil and situation, and which often covers some of the poorest and most rocky places. In this region it usually begins to ripen some of its berries about the end of the third week in June. On account of being earliest in the market this

pleasant-flavored fruit generally brings very good prices. Normally it is of a blue-black color, covered with a rich blue bloom, which rubs off in handling, although there are some varieties which have very little of the bloom.

Vaccinium Canadense, of the botanists, when seen in the garden, does not seem to differ much from V. Pennsylvanicum, but differences will be found in its generally broader, less-pointed and more pubescent leaves, in the more pubescent twigs, and in the fact that the leaf-margins seem entire, while minute bristle-pointed teeth are to be detected on the margins of V. Pennsylvanicum. It is inclined to become a larger plant than V. Pennsylvanicum. It is much like the latter in quality of fruit, though the berries probably average larger. Planted side by side the fruits ripen nearly together here. In the event of domestication, V. Canadense may be found more profitable to cultivate than V. Pennsylvanicum, as it seems quite as prolific. It is not found wild in this part of New England, occurring chiefly in higher altitudes or farther north.

Growing with Vaccinium Pennsylvanicum we have a distinct species in the so-called Low Blueberry, V. vacillans, the stems of which will grow to two or three times the height of the stems of V. Pennsylvanicum. Both foliage and stems are usually quite glabrous, the thick, oval or obovate leaves sometimes with very minute teeth around the margin, sometimes entire. The plants may be readily distinguished from V. Pennsylvanicum by the larger size, by the leaves being twice or three times the size and duller or lighter green on the upper surface and distinctly pale or glaucous beneath. The fruit of this species only begins to ripen when the best of the crop of V. Pennsylvanicum is past, and thus the local Blueberry season is much prolonged. This species seems to be more prolific than V. Pennsylvanicum, although sometimes much of the fruit falls prematurely, perhaps from fungal disease. The berries themselves are scarcely different from the other species, except that the crown of calyx-lobes is smaller and the berries are firmer and therefore keep longer and bear transportation better. While of good flavor, the berries are not quite so juicy and sweet.

The most conspicuous and, perhaps, altogether the finest of our native species is the High Blueberry, Vaccinium corymbosum, which commonly forms bushes six or eight feet or more in height and with stems sometimes two or three inches in diameter. The fruit is intermediate in ripening between V. Pennsylvanicum and V. vacillans; it is of fine flavor when fully ripe and averages larger than other kinds. It is extremely variable in fruit, however, and exceptionally prolific, and large-fruited individuals are often found, and altogether it is a plant likely to reward any well-directed efforts toward its improvement from a horticultural point of view. Plants with black fruit, or without the blue bloom, are common in nature, and from this and other characters botanical varieties of the species have been described, although not easily identified by the average botanist.

Years ago, in some of the western states, a High Blueberry

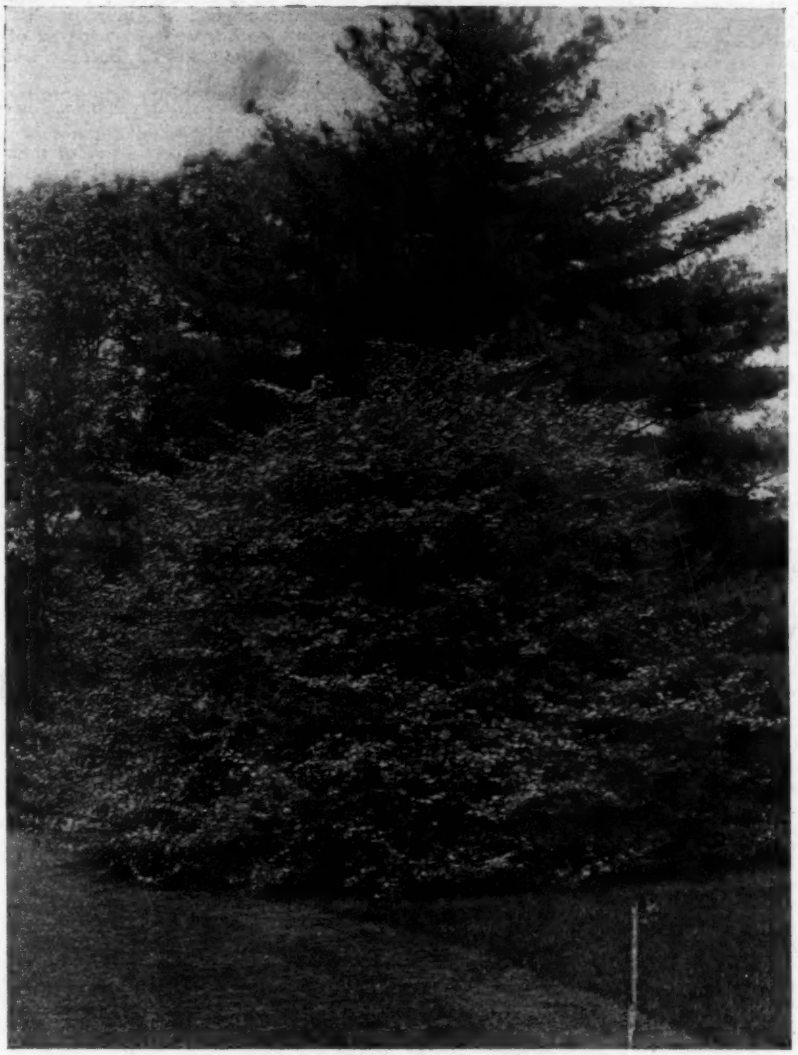

Fig. 49.—The Cockspur Thorn (Crataegus Crus-galli) in a Massachusetts Garden.—See page 292.

with extraordinarily large fruit, of extra quality, was widely advertised by some unscrupulous nurserymen, and thousands of plants were sold. These afterward proved to be merely a variety of our native Shad-bush or June-berry (Amelanchier Canadensis), the fruit of which is by no means unpalatable, but which, botanically and culinarily, is widely different from a blueberry.

Arnold Arboretum. *J. G. Jack.*

Perennial Sweet Peas.

NOW that the annual varieties of flowering Peas are so popular as garden-flowers, the thought occurs that those of perennial duration are also among the best of garden-plants that are easy of growth, and they do not require half the care and attention that is necessary to get the best results from the annual sorts. All of these hardy kinds can readily be raised from seeds, but where a special variety is wanted, or perpetuated, it is best to rely on cuttings taken in fall after the flowering period is past, or early in spring from cuttings taken from old plants stored in the greenhouse for that purpose. An old root will furnish a large quantity of good cuttings, and ninety per cent. of these will root and flower the same year if planted in the open ground. Peas, in common with all others of the Pulse family, require a good soil, one, above all, that is moist in summer, or that can easily be watered in such dry weather as we are suffering from now.

The most useful species, so far as we have found, is Lathyrus latifolius; it is also the most often seen in gardens along with its white variety called Albus. The latter is a valuable garden-flower, specially useful for florists and others who require white flowers in quantity in summer, as there are frequently five and six flowers to each stem, and these last well when cut. There is a variety of L. latifolius called Splendens which may be regarded as the best type, but one that cannot be depended upon to come true from seed. In this respect it resembles the white form, so that it is best to obtain plants instead of seeds of these two kinds. It is rather unfortunate that there should be a mere variety called Splendens when there is such a fine species of the same name. It has more than once occurred that when trying to obtain the latter the other has been sent instead, and the error was not discovered until after considerable time had passed. I am in serious doubt whether this Californian L. splendens is really hardy in the east, for it never seems to have survived the winter here.

There is another good species called Lathyrus grandiflorus, or biflorus. It is the largest of all in size of individual flowers, but it rarely happens that there are more than two flowers on a stem. It is quite hardy, a good perennial, and should be grown where the others are appreciated.

Lathyrus sylvestris is also a perennial plant, but much inferior to all the others named. In habit it resembles L. latifolius, but the flowers are smaller and paler in color. Of L. tuberosus we have had a good opinion for several years. It is the smallest grower of all, the vines being very slender, and produced from a tuberous root not unlike a small potato. It also has the peculiarity of coming and going as it pleases; sometimes it is in one place, and then in another, as it spreads from the roots, but not to such an extent as to make it objectionable, for the flowers are very pretty and abundant, though small. It is a plant that will take care of itself in a semi-wild situation, and be sure to flower every year. It never grows more than two feet high, though it requires support, as do all the others, and this is best afforded by planting near a fence, or even against a building, where the shoots may be trained upon wires. If grown in borders the plants must have a few Pea-stakes neatly set for their support; but a semi-wild garden suits them, where they may ramble at will.

South Lancaster, Mass. *E. O. Orpet.*

Pelargoniums.

FOR some years past Pelargoniums have not received the attention to which their merits entitle them. In richness of coloring their flowers have no superiors, and well-grown plants in full bloom attract universal attention; in short, they can hardly be excelled for the decoration of conservatories or greenhouses. Plants which are now going out of bloom should be set out-of-doors and watered more sparingly until they lose most of their leaves and their wood becomes well hardened up. If it is desirable to have large plants they should be cut well back about the middle of August, and then shaken out and repotted when they have begun to break. For ordinary purposes smaller plants are desirable, and the best way to secure them is to insert cuttings in well-drained boxes of sand in September, placing them on a light shelf and giving the treatment suitable for bedding Geraniums. When rooted it is preferable to keep the young plants somewhat dry until they are potted off in two-and-a-half-inch pots in January. As the pots fill with the roots the plants may be shifted to four, six and eight inch pots, the latter size being as large as is usually desirable. For compost any tolerably rich loam, such as is used for soft-wooded plants, will be found suitable for Pelargoniums. If the plants are to be shapely they must be well grown up to the light in a cool, airy house, and their growth should never be allowed to slacken for want of water. They should be syringed overhead every fine day, and a weekly fumigation is necessary, since no plants are more quickly ruined by the attacks of the green aphis. After the plants are well rooted in their flowering-pots liquid-manure may be given to them freely. Topping should be discontinued after the first week in March, as it is better to have Pelargoniums in bloom from the latter part of April until the beginning of June than later on, because hot weather tells on them severely.

Specimen Pelargonium-plants are rarely seen now in American exhibitions. Last year a prize offered by the Massachusetts Horticultural Society did not bring out a single entry. Some years ago they lost some of their popularity in Europe, but they are now largely grown and are extremely popular. Few cottage-windows in Great Britain are to be seen without one specimen at least. Owing to the cooler weather, their flowering season is much more prolonged there than it is here, continuing from April until July. Tens of thousands of beautifully grown plants are sold in Covent Garden Market, and the magnificent specimens shown at York, Manchester, London and other shows are worth a long journey to see. The best varieties which I have tested are Duchess of Bedford, a pure white; Kingston Beauty, pearly white, spotted with dark purple; Princess of Teck, pure white; Madame Thibaut, white, blotched with rose; Beauty of Oxton, rich maroon; Queen Victoria, vermilion, margined with white; Gloire de Tours, bright scarlet; Jeanne d'Arc, blush, blotched with maroon; Illuminator, crimson-scarlet; Duke of Albany, crimson-maroon.

It is hard to obtain good varieties even from reputable American nurserymen, the varieties they have on hand being usually behind the time. If some enterprising firm would secure the best possible selection of these plants and exhibit a well-grown group of them at a prominent exhibition they would create something like a sensation and give the plants a well-merited boom.

Taunton, Mass. *W. N. Craig.*

Gladioli.

GLADIOLUS OPPOSITIFLORUS, now in flower, is a very vigorous species, with leaves nearly five feet long and flower-scapes rising above them. The flowers are a rosy pink, with darker rose markings and splashes, and they are borne in opposite rows. The spikes show from twenty to thirty flowers, and on the strongest specimens have branches. This Gladiolus is interesting from the fact that it is supposed to be one of the parents of the Gandavensis hybrids, though not definitely proved. Its history has already been told in Garden and Forest, and it was lately figured in a colored plate in *The Garden*. It was originally credited to Madagascar, but it was lost to cultivation for many years. We owe the present stock to the energetic Herr Leichtlin, who has lately introduced it from Natal. It may be as well to say that if the history were suppressed this Gladiolus would not excite much attention from a fancier of the modern hybrids, with their compact spikes of handsome flowers. Still it has an informal beauty, and is an attractive plant of stately port, and at present is very bright and pleasing.

Gladiolus dracocephalus lutens is a plant of the greatest vigor, and only a trifle less tall than G. oppositiflorus. The variety differs from the type in having flowers of a more pronounced yellow, with reddish brown markings. As is well known, the Dragon's-head Gladiolus has hooded upper segments, and is a flower of quaint, although not striking, beauty.

Gladiolus platyphyllus is one of the newer species which has lately flowered. My specimens may not have done it justice, as they did not grow very strongly, and the leaves have shown no abnormal width. The flowers, of moderate size, are widely opened and borne on a lax spike. In color they were a greenish yellow, with reddish brown linings.

Gladioli are not among my favorite flowers, as they require special care at both ends of the season, when garden matters are rather pressing. Lately, however, I have been growing a small collection of the original species rather as objects of study and interest than as garden ornaments. Their beauty, as far as observed, is usually rather that of quaintness, though

among them are some pretty things, especially those with white flowers. I wintered out a dozen European and Asiatic species last season without protection, which flowered in May, and are now at rest. The selection of varieties was not very fortunate, as they were mostly twin brothers to G. Segetum, whose reddish purple color is never pleasing. G. communis alba was about the only one of the lot of good color and worth noting. While these bulbs seem perfectly hardy, it would probably be well to lift them, or, at least, keep them dry during the summer. One often finds Gladiolus-bulbs, especially of the purpureo-auratus section, which have lived out all winter, but I have never seen them grow strongly in such cases, and they usually disappear.

Elizabeth, N. J. *J. N. Gerard.*

Vellozia elegans.

THE Vellozias number about fifty species, natives of tropical and southern Africa, Madagascar and Brazil. The species belonging to the eastern hemisphere are in some ways different from the Brazilian ones, and are ranked as the subspecies Xerophyta. The subject of this note was introduced in 1866, having been raised from seeds received from Madagascar or from South Africa. Its native country is not known, therefore, with certainty, as it has never, I think, been collected since its discovery. The plant having been sent to Kew, was named Xerophyta elegans, as it seemed to belong to Commerson's genus of that name, which is now reduced to Vellozia. As V. elegans the present species is figured, and well figured, in the *Botanical Magazine*, t. 5803.

This is not one of the showiest species, but is a very pretty and distinct plant, whose chief fault, horticulturally speaking, is the persistency of its flowers, which turn green and remain a very long time after their beauty has gone. At their first appearance they are very pure white stars, an inch or more across, borne singly on long slender stalks produced from the axils of the leaves. The foliage is abundant, consisting of long Sedge-like leaves closely set along the bristly stalks. No plant that I know, outside of the succulent kinds, can suffer so severe a drying as this and recover. One of my two plants was overlooked for several days, and when I next saw it was a most miserable-looking object, but I gave it a good watering and set it where it would be sure to be seen by the waterer, and to-day it is as fresh and bright as the other which has never been neglected. Pleasing as it is, I cannot help longing for the introduction of some of the Brazilian species, among which there are plants with flowers of purple, violet and yellow, some of them four inches in diameter.

Canton, Mass. *W. E. Endicott.*

Notes from Cornell University.

THE DWARF JUNE-BERRY.—The two hundred plants of the Dwarf June-berry, called Success, which were set in 1888, were loaded with fruit this year, and for the first time since they came into bearing the robins allowed us to make one picking before they took the crop. The berries were placed on sale in the city in two places and labeled, and although a novelty on the market they readily brought twelve cents a quart. This June-berry, under cultivation, proves a most prolific bearer, and from the results obtained this year seems worthy of a more extensive trial.

THE APPLE-SCAB (Fusicladium dendriticum).—The Apple-orchards in western New York are seriously attacked by the Apple-scab this summer, and it seems more abundant than in the eastern part of the state. At the Horticultural Experiment Station about fifty varieties were recently examined to determine which were most seriously affected. The trees were set in 1889 and carried but little fruit, so the observations were mainly confined to the foliage. Some varieties were so badly affected that the leaves were blistered, curled up and smoky in appearance. Among those most seriously attacked are Fameuse, Fall Pippin, McIntosh Red, Gravenstein, Seek-no-Further, Rhode Island Greening, Northern Spy, Canada Baldwin, Dickerson, Baldwin, Tallman Sweet, Fall Orange and Sweet Bough. Among those least affected are Hyslop Crab, Tetofsky, Wealthy, Golden Russet, Primate, Esopus Spitzenburg, Roxbury Russet, Yellow Transparent, Ewalt, Longfield and Alexander.

RUSSIAN CHERRIES GRAFTED ON PRUNUS PENNSYLVANICA.—The Wild Red, Pin or Bird Cherry (Prunus Pennsylvanica) is recommended as a stock for grafts of sweet and sour Cherries. Such grafts are found to unite readily and bear early. One of the greatest objections to this stock is that it sprouts badly. In order to test the Wild Red Cherry as a stock for Russian varieties of Cherries, the following kinds were set in the spring: Späte Amarelle, Minnesota Ostheim, Amarelle Hatine, Orel, Lithauer Weishel, Shatten Amarelle, Fouchis Morello, Riga and Bessarabian. Most of the cions were in good condition when set, and some grafts of all the varieties except Bessarabian took and are vigorous. If the growth of the graft will counteract the tendency in the stock to sprout, this common Wild Red Cherry may prove of great use to horticulturists.

Cornell University. *G. Harold Powell.*

Correspondence.

The Injury to the Grape Crop.

To the Editor of GARDEN AND FOREST:

Sir,—The wide-spread failure of the grape crop should call attention to the possible loss of fruit from lack of pollenization. The vines came through the winter in good form. The canes were clean and healthy. New growth began all right, and buds were formed abundantly. Frost touched a few bunches, but so far all went on promisingly. Then began a continuous rain just as the blossoms were unfolding, a general rain, with floods over New York, Pennsylvania, Ohio and further west. This protracted down-pour continued nearly every day in May. The result was that the pollen of the opening flowers was unable to do its work; neither could insects assist as usual. I find Moore's Early, which is very early to blossom, bears a few bunches; and some vines protected on my house, of Goethe, Delaware and Gærtner, are not quite fruitless, but for the most part the grape crop is obliterated. This is a general fact over many grape-growing sections. In other sections frost did destructive work. The question follows, if it is possible for us in any way to anticipate a loss of this sort. I have not a bushel where I should have a ton. Can we devise any protection during the flowering season? Keeping bees in our vineyards I know to be of great value, but can it save our crop in spite of continuous storms? I do not feel satisfied that we cannot devise simple screens, or a protective lattice. To many persons the grape has become an essential article of food, and in the judgment of many competent authorities there is no more wholesome fruit in cultivation.

Clinton, N. Y. *E. P. Powell.*

[Colonel A. W. Pearson writes from Vineland, New Jersey, that thousands of vines which blossomed as freely as usual there will not bear a single grape this year. There will hardly be one-tenth of a crop in southern New Jersey, and he ascribes the loss to heavy rains when the vines were in blossom. Showers fell every day for nearly a fortnight, and during four days, while the blossoms were opening, twelve and a half inches of rain fell. No other cause for the failure to set fruit has been suggested.—ED.]

"Keep off the Grass."

To the Editor of GARDEN AND FOREST:

Sir,—Whenever I visit public parks and find myself confronted at every turn by the command to "keep off the grass," I have a feeling akin to indignation. City parks are made for the especial comfort of city people, and as city people are compelled to walk forever on pavements of stone the opportunity to set foot on soft smooth turf is to them particularly delightful. I have no respect for the landscape-designer who tantalizes visitors with such a pleasant footing and then forbids them to step on it. If there is any area of grass too precious to be walked on, why not put it away somewhere and fence it off so that it will not be a constant temptation? For my own part I cannot help a feeling that I am not wanted in a park which I cannot use.

The proposition that parks which cannot be used are useless seems to need no proof. These pleasure-grounds, to be worth anything like their full value, ought to be thrown open to popular enjoyment. I never knew a pleasure-ground which was more useful than Lincoln Park, in Chicago, and any one who visits it on Sunday afternoon can see thousands of people sitting and lying and playing on the grass, and in this way getting the interest on the money which they had been taxed to raise for purchasing and maintaining the place. I never saw but one sign-board there which warned people off the grass, and an adventurous citizen was sitting on that. This seemed to me the only good use that such a sign was ever put to. It is true that when ground has just been seeded down it is well to refrain from trampling on if for a time, and in such cases I would put up the warning and state the reason why people

were not allowed to walk on it. But there is no occasion to keep people off established turf, because walking on it does it good.

The privilege of rambling over a stretch of meadow is to me much greater than the pleasure of gazing from a distance upon any effect produced by the landscape-gardener, whether he belongs to the pure and hyper-æsthetic naturalistic school or manufactures chromos of the "Gates Ajar" and portraits of the Father of his Country out of Coleuses and House Leeks. It is time that people asserted their rights in this matter. There ought to be a law in every state that no city could acquire any park-land unless the people were allowed to use and to enjoy what they have paid for.

Buffalo, N. Y. *B. R.*

The Island Flower-garden in Jackson Park.

To the Editor of Garden and Forest:

Sir,—The flower-garden on the wooded island, in Jackson Park, is in happy contrast to others in the South Parks. Conventionality is so obtrusive in cities that it is a relief to get away from it sometimes, and a garden seems a fitting place to be free from its restraints. There are no carpet beds on the island, nor is it a show-place, but it comes nearer being a flower-garden than anything so far shown in any part of the South Park system, not excepting the make-believe old-fashioned garden that used to stand tantalizingly like an inaccessible heaven above the golden stairway, and beyond the dreadful Gates Ajar. That crown of flowers, however, did much to redeem the character of the Chamber of Horticultural Horrors that has for years more or less disfigured Washington Park and depraved the public taste.

The spring of 1894 found the World's Fair out-of-door flower exhibit a thing of shreds and tatters. But the scattered remnants have been carefully husbanded, and already the results are a delight. The border that outlines the wooded island has always been a thing of beauty, and if matters go on as they are going now another year will find the interior in keeping with its setting, or at least well started toward that end.

The lawns are refreshingly green, and the trees and shrubs show well-placed and well-proportioned masses of foliage. Against this background the occasional closely filled beds of hardy Azaleas, Rhododendrons, Pæonies, Irises, Delphiniums, Columbines, Oriental Poppies and the Rose-garden are relieved with good effect. Bold masses of several varieties of Pæonies have been especially good, and the lovely tone of a bed of yellow Irises has been a marked note in the picture.

The Rhododendrons are good, and will probably be better another year when established. They were wintered indoors, and have but recently been placed in the permanent beds. The Rose-garden is enclosed with a low hedge of climbing Roses, just as it was last year, the plants having been left unmolested and unprotected during the winter. The Baltimore Belle and Pride of Washington, of which it is composed, have borne the cold far better than one would have expected. Pride of Washington came through in the best shape, but has lost many of its upper branches. These, however, were injured far more by the wintry spring than by the cold of winter. The climbing Hedge Roses are supported by two wires, stretched on stakes alternately one foot and about two and a half feet high, and they now form a nice little green wall that has been thickly covered with flowers, while great numbers of vigorous young shoots are starting from near the ground. Pride of Washington is evidently a good choice for this latitude, particularly if kept rather low and the tops protected. Enough Roses remained to fill most of the garden, and all have been reset, are doing well, and nearly all have bloomed well.

The wide, irregular border inside the hedge, that was last year filled with tender, ever-blooming Roses, is now occupied by hardy herbaceous perennials; an extensive and varied collection having been formed from odds and ends left over from the Fair. These bits have been gathered carefully and intelligently from every available source by Mr. Lutschy, the Swiss gardener, who was foreman for the Chief of Floriculture, and has since then been in the employ of the South Park Board. No one else could have done the work so well, for he was familiar with the character and location of every exhibit, and now goes about gathering in choice scraps from the grass-plots (where exhibits stood last year), and thus adds valuable material to the hardy border. As, for instance, self-sown seedlings from the remarkably fine collection of hardy Phloxes shown in the English section.

Borders of hardy shrubs and of herbaceous plants, that are planned and arranged with taste and intelligence, are good things to see and to have. Their permanent character, when understood, must appeal to the public. And the beauty of color, succession of bloom, and the relation of size and character of contiguous plants, as well as the excellence of the general effect of the island's planting, can scarcely fail in time to impress a part of the people with a desire to have something similar on their home grounds.

The inexpensiveness of this style of gardening, as compared with the annual purchase of tender plants, should alone recommend it to a majority of Chicago suburban dwellers, of whom, by the way, there are thousands who thus waste their substance in this reckless fashion.

Chicago, Ill. *Fanny Copley Seavey.*

The Cypresses of Monterey.

To the Editor of Garden and Forest:

Sir,—In your issue of June 20th you allude to the very restricted range now occupied by Cupressus macrocarpa, and go on to express an opinion that it is hardly possible to conceive that a tree of such vigorous constitution did not at some earlier period occupy a larger territory, or that it has not been driven to this inhospitable shore by the gradual drying of the California climate which followed the disappearance of the great glaciers of the Sierras, or by the direct action of fire in comparatively modern times. As my own knowledge is confined to herbarium specimens and to comparatively young trees in cultivation, I feel some hesitation in expressing an opinion, but, at any rate, there will be no impropriety in offering a suggestion for the consideration of those whose opportunities are greater than my own. My suggestion is that C. macrocarpa, in some form or other, may not really be so limited even now as is generally supposed. For instance, there is the Farallones Cypress, from the Farallones Islands, which is a near ally, even if not actually a form, of C. macrocarpa. Even more nearly allied is C. Guadeloupensis, S. Watson—so closely, indeed, that, for my own part, I should refer Watson's species to C. macrocarpa. It is more glaucous than the type, and has a facies (as botanists say) a little different from the ordinary C. macrocarpa. Such differences are common in the case of insular plants. If this opinion be feasible it strengthens your contention that the tree had once a wider area of distribution that it now has.

London. *Maxwell T. Masters.*

The Forest.

Mixed Oak and Beech Forests of the Spessart: Management by the Bavarian Government.—I.

In 1814 the Spessart was incorporated with the Kingdom of Bavaria. The greater portion of the forests belongs to the state, while a considerable area belongs to a few large private owners. Soon after 1814 attempts were made to introduce a methodical and comprehensive system of management. In 1790 the Oak-woods occupied 21 per cent., Beech-woods 40 per cent., and Oak mixed with Beech 39 per cent. of the forest area. During the wars which followed, and during the occupation of the country by the French, the condition of the forests deteriorated rapidly. Oak-timber was cut recklessly, in order to provide money and to satisfy the requisitions of the invading armies. Even more mischievous was the uncontrolled removal of wood and litter by the people settled in and around the forest. In 1820 the area stocked with Oak had been reduced to 16.4 per cent. Large areas, particularly on the outskirts of the forest and in the northern portion, had been completely devastated, and were no longer in a condition fit to produce Oak and Beech.

Under these circumstances the task to be accomplished by the Bavarian Government was difficult. In the first instance the administration of these estates had to be organized, boundaries defined and marked on the ground, the forest rights had to be inquired into and their exercise regulated, the forest had to be divided into blocks and compartments; it had to be surveyed and mapped, executive and protective officers had to be placed in charge of, and a system of roads for the export of timber had to be built. Apart from this work of general organization there were

three matters of vital importance which demanded immediate attention.

These were (1) the regulation of cuttings as regards Oak-timber;

(2) The measures necessary to reclaim the devastated forest-area; and

(3) The regeneration of the Oak.

THE GROWING STOCK OF OLD OAK-TIMBER SPREAD OVER A LONG PERIOD.

From the outset it was clear that the existing stock of old Oak-timber could not be made to last until the young Oak-woods attained maturity. It will be remembered that there was an almost complete want of middle-aged Oak-trees. The interruption in the future supply of Oak-timber, which is the necessary consequence of this state of things, might be partially bridged over by spreading the consumption of the growing stock of old Oak-timber over a long series of years, allowing the last old trees to attain a very great age. Obviously, however, there is a limit to such a proceeding; for, though the Oak-tree attains a very great age, still, among very old trees, there will always be a proportion whose timber near the centre of the stem is unsound; moreover, the proportion of unsound and hollow stems increases rapidly with advancing age. During the eighty years which have elapsed since 1814, the cuttings of old Oak-trees have been carried on in the most economical and careful manner, so that there is still a large growing stock to draw upon during a long series of years. In order to effect this an elaborate working-plan was drawn up more than sixty years ago, which, however, was made subject to periodical revisions. The last revision was made in 1888, and a statement of some of its provisions may possibly interest your readers.

The Rohrbrunn Range comprises a wooded area of 13,063 acres, and in this area 102,000 large Oak-trees were left standing in 1888. The yield of Oak-timber in cubic feet for five consecutive periods is estimated as follows:

Periods.	1888 to 1911	1912 to 1935	1936 to 1959	1960 to 1983	1984 to 2007
Timber yield, . .	6,183,000	2,349,000	3,780,000	4,131,000	189,000

The working-plan is prepared for five periods of twenty-four years each, and it will be understood that only the total quantity to be cut during each period is fixed, the detailed arrangements regarding the quantity to be cut each year being left to be settled when the time comes, in accordance with circumstances then existing. All old Oak-trees are registered, and from the figures of the statement it will be seen that there were in 1888 102,000 in the Rohrbrunn Range—namely, 72,000 in the 1,000-acre block on the slopes of the Geiersberg, then about 240 years old, and 30,000 older trees in the rest of the range, mostly scattered among Beech-woods. The older trees will be cut during the first two periods, whereas the Oak of the 1,000-acre block will furnish the main portion of the yield expected between 1936 and 1983—that is, during the third and fourth period. The mean age of these trees will at the time of their fall be 310 years. If cut at the present time the timber would probably not fetch more than thirty marks per cubic metre (35 cubic feet or 420 superficial feet), whereas the timber of trees 300 to 400 years old is worth from two to three times that amount. Thus it is true economy not to contemplate cutting the last of the Oak-timber standing on the 1,000-acre block in the Rohrbrunn Range until nearly 100 years hence.

To some of your readers the notion of providing in a forest working-plan what has to be done 120 years hence, of settling in 1888 what Oak-timber is to be cut between 1984 and 2007, may appear little short of childish. Doubtless, changes may take place before that time; storms may uproot thousands of the trees now standing long before the period assigned for their cutting, and other unexpected events may happen which may upset all previous calculations. So much, however, may be regarded as certain, that an article as valuable as Oak-timber will always command a comparatively high price, hence it is desirable to take measures to secure, as far as possible, an uninterrupted supply of this article. And it is evident that, in order to secure this result, some sort of forecast must be made for a long series of years, even at the risk that some of its provisions must be modified when this plan is periodically revised. As a matter of fact, ever since 1814 the cuttings and other operations in the Spessart have been regulated by working-plans of this kind, and the present satisfactory condition of the forests has been brought about by arranging the annual cuttings in accordance with the provisions of such working-plans. Generally it may be said, that the heaviest annual yield will be during the first period, because many very old trees, which would otherwise deteriorate, must be cut, and that, although until the close of the fourth period (to 1983) it will be possible to maintain a fairly even supply of Oak-timber, there will be a break then, which will last until the woods now 100 years old have attained those dimensions which will justify their utilization.

Recent Publications.

The Garden that I Love. By Alfred Austin. Macmillan & Co.: London and New York, 1894.

In these days, when so much complaint is heard of the artificiality and excitement of life in cities, any book which sets forth in attractive fashion the genuine happiness to be found in the simple employments of country life needs no excuse for being; and whatever may be the defects of Mr. Austin's little volume, there can be no question that it reflects on every page that true content which can be found by degenerate man only when, escaping from the friction of the world, he endeavors to create for himself some "suburban resemblance" to that pure paradise forfeited ages ago by Adam's fall. Mr. Austin is, perhaps, a little too conscious of his reputation as a poet and literary man to be always spontaneous, but his devotion to rural pursuits is not affected, and his love of his garden and of nature herself is profound and sincere. He notes her changing beauty with an artist's eye and describes it with something of a poet's grace. Nor is he altogether wanting in appreciation of that higher beauty of nature which appeals rather to the soul than to the senses or the intellect.

It is impossible to read these clearly printed and broad-margined pages without comparing the work with Mrs. Robbins' simple story, *The Rescue of an Old Place*, first told in the columns of this journal. The two books are exactly alike in purpose, but with the difference that would be expected between one which treats of the charms of rural life in an old and another which treats of the same life in a new country. Each records a series of experiments by which beauty and harmony were wrought out of something like ruin and desolation, but the scene of Mr. Austin's experiment is a neglected estate in the heart of cultivated England, rich with all the passion of the past; while Mrs. Robbins finds her happiness in rescuing from decay an abandoned farm in prosaic and rugged Massachusetts. Both tell of compromises between history and hope and explain how, by loving labor, "the old may be made to add charm and dignity to the new, while the new lends purpose and meaning to the old," and it may be that because this is the problem, not only of landscape-art, but of life itself, we find in both books, scattered amid more or less practical and trustworthy directions as to sowing and planting and gathering, so many sage criticisms of life and art—a sort of mental harvest which seems to be garnered by every one who, while treating nature and her work with due reverence, assumes control over ever so small a portion of the earth's surface and attempts to subdue it to use and ordered beauty. Both books have the accent of culture, but in Mrs. Robbins' book the note is struck with the firm touch of one to whom life is more than books, the body more than raiment, while in *The Garden that I Love* we hear the somewhat languid tone which results when culture is sought as an aim in

itself rather than as an adornment of life. The one book has an indolent Old World charm inseparable from the story of a mansion whose life has been connected with the history of many generations of men, while the other breathes throughout the fresh and bracing atmosphere of a new world, where antiquity is less impressive and oppressive. Mr. Austin does not seem to have that simplicity of character which enables a writer to be personal without a touch of egotism, nor the rich sense of humor which can often render even egotism itself delightful, but he has an observant and sympathetic eye for outdoor beauty, and the reader will find many delightful passages which show the touch of true poetic feeling. Here is one:

Autumn, I grant, knows the art of gardening to perfection, and possesses the secret of careless grace even beyond the spring. There is an orderly negligence, a well-thought-out untidiness about autumnal forms and colors no other season can match. Even to the garden proper, the cultivated plots of man, autumn adds such wonderful touches of happy accident, that when it comes—really comes—a wise man leaves his garden alone and allows it to fade and wane, and slowly, pathetically pass away, without any effort to hinder or conceal the decay. Indeed, it would be worth while having a cultivated garden if only to see what autumn does with it.

Notes.

According to a dispatch in *The Tribune* of this city, a small seedless grape, known as Lady de Coverly, and said to be very sweet and refreshing, is the first variety which has been shipped from the Pacific coast. Some of these started eastward last week from Palm Springs, a valley on the edge of the Colorado desert. They would have been shipped a fortnight ago but for the railroad strike.

According to the *Weekly Press*, of Pretoria, in South Africa, forests are being as ruthlessly destroyed in that region as in our own country. "The destruction of trees for fuel," we are told, "has been carried on so long, and with such a reckless disregard for the future, that there is now good cause for alarm. The timber in the Waterberg districts is not nearly so thick or of such value as a casual observer would believe, and the cutting here and in the Woodbush is going on so promiscuously and without any replenishment that the end of the splendid timber-supply in the northern districts must soon come."

It is estimated that 52,236 tons of teak-wood were cut in lower Burma in 1889. The Teak forests of the upper part of the province, however, are more extensive and important, and in 1889 produced not less than 139 500 cubic tons of teak. The trade shows no signs of diminution, notwithstanding the many rival materials with which teak-wood has now to contend, so varied are the purposes for which it is adapted. Teak is used in ship-building for decks and lower masts, railway carriages, the construction of bridges, for furniture and house-building. It is found particularly well suited to back the metal-plates on iron-clads, the resinous matter which it contains acting as a preventive against rust.

A correspondent of *The Country Gentleman* writes from Delaware that among Red Raspberries grown there a local variety known as the Miller is finding great favor. In size the berry averages about as large as that of the Cuthbert, which is the main market variety in that section, but it has a smaller core, and therefore bears shipment better. It ripens with Thompson's Early, and will bear twice as many berries at each picking, and it continues longer in fruit. Besides its lack of productiveness, Thompson's Early yields berries which crumble easily, and Royal Church seems to possess the same bad quality. The cane of the Miller Raspberry is quite hardy, and from the present accounts it seems to be the most desirable market berry which has yet fruited on the peninsula.

The Department of Agriculture has sent out a circular concerning Hungarian Brome Grass, Bromus inermis, which contains a figure of the plant and such facts as are known of its habits and value. Inasmuch as the plant is of comparatively recent importation the circular is accompanied by questions, the answers to which, it is hoped, will furnish the department with a record of the experience of persons who have tested it, so that its adaptability to various sections and different purposes in this country may be better understood. It is said to be good for holding the banks of ditches and strengthening the turf on sandy soil, and in regions subject to extremes of heat and long drought and in light soil, or where the land is not adapted to the growth of finer grasses, the plant is cautiously recommended for trial. It might have a real value in a permanent meadow or pasture, and especially in the south, for winter grazing. On lands where frequent rotation is practiced or desired, care should be taken that it does not become a weed almost as troublesome as the Couch Grass.

In the third volume of *The Industries of Russia*, translated by John Martin Crawford, United States Consul-General to Russia, a Turkestan garden is described as a portion of land surrounded with a high clay loam wall, along which are planted Poplar and Willow trees. The land is devoted to Lucerne, Melons, Water-melons, or more rarely vegetables, or it may be planted with Grapes, Apricots, Peaches, Mulberries, and more rarely Quince, Pear, Plum, Apple and Fig trees, all these being set without any fixed plan. A large plantation of Poplar or Willow is very often to be found in gardens, where these trees are grown for the sake of their timber, as well as for the fuel they furnish. Under the thick foliage of the older trees, the Elm, the Plane, the Apricot and the Mulberry tree, the natives are wont to fence off a small space where carpets are spread on hot days and where they take their rest or siesta. The selection of flowers which are occasionally grown in these gardens is very limited. Sweet Basil (Ocimum basilicum), the favorite plant throughout Central Asia, garden Balsam, from which is prepared a red dye for the nails, the Mallow, the Marigold, the Lady's Comb (Celosia), and more seldom Dog Grass and the Aster, are plants almost always found in the garden.

The market season for raspberries is practically over, and the few which remain are of small size and low quality, as are blackberries and huckleberries also. The widespread drought has brought the supply of these small fruits to an untimely end, while currants, and even large orchard fruits, such as apples, have been seriously affected. The leaves of Corn are curled, and gardens over a large part of the northern Atlantic states, where irrigation is not practicable, are parched so that vegetables as well as fruits show the effects of drought in poor quality and diminished quantity. A few fine gooseberries sell for twenty cents a quart. The first Delaware grapes have arrived from South Carolina, and they brought thirty-five cents a pound. Peaches from Maryland, Delaware and the few coming from New Jersey are altogether inferior, but owing to the scarcity of all fruits hereabout and the total absence of the supply from California for nearly a month, prices are very high, and peaches, which in other seasons would hardly have been considered marketable, now bring two dollars and fifty cents a basket, while those of a larger size, from Georgia, sell in the fancy-fruit stores at two dollars for a box holding a dozen and a half. A few Bartlett pears are coming from Virginia, evidently picked to reach a bare market as early as possible. Wild goose plums, from Delaware and Maryland, sell at twelve to fifteen cents a quart at retail. A chance car-load of Peach plums and Tragedy prunes came through from California last Friday, and although the fruit was in poor condition from the protracted journey, the car-load realized above $3,000. Sweet Bough and Astrachan apples, from Long Island, are becoming more plentiful and cheap. Muskmelons are abundant, but good ones are costly, some Jenny Linds of first quality, from Maryland, commanding two dollars and fifty cents for a basket of eighteen melons. Two hundred and forty car-loads of watermelons came from Georgia and South Carolina during last week. In fact, watermelons are so abundant that wholesale prices are quoted by the car-load as often as they are by the hundred. A good car-load brings as much as $250. New limes are coming from Jamaica, and there are small supplies of grape-fruit from the same island. Besides the Rodi oranges, which constitute the main summer supply, an occasional box of King of Siam and other late oranges arrive from Florida, and, of course, bring excellent prices. The large number of 125,000 boxes of lemons were sold in this city last week at fair prices, and bananas also continue to arrive in enormous quantities, the receipts this month being even heavier than in June, when more than half a million bunches were received in this city. The season for bananas from Cuba begins with March and closes in October. Nearly half of the supply now comes from that island, principally from the port of Gibara, the winter supply coming from more southern latitudes. An effect of the general scarcity of fruit is noticed on the streets, where fruit-stands are less numerous and less bountifully supplied than in recent years.